



State of Utah

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June 12, 2003

TO: Minerals File

FROM: Paul Baker, Senior Reclamation Biologist 

RE: Site Inspection, U. S. Energy Corp., Velvet Mine, M/037/040, San Juan County, Utah

Date of Inspection: May 29, 2003
Time of Inspection: 10:30 a.m. to 1:30 p.m.
Conditions: Mostly clear, 80's
Participants: Ted McDougall (BLM), Fred Craft (U. S. Energy), Jim Butt (contractor for U. S. Energy), and Paul Baker (DOGM)

Purpose of Inspection:

The purpose of the inspection was to look at the site with all the parties involved in reclamation and to discuss how the site was going to be reclaimed. We particularly wanted to discuss reclamation of the roads since most of the roads were built specifically for the mine but have been mapped as part of the county road system. Two people from the county road department were invited to the meeting, and although I was told in a telephone conversation the day before the meeting that someone from the county would be there, no one from the county came.

Observations:

We first discussed reclamation of the portal. Photo 1 shows the portal and some of the surrounding area. The portal begins by going through unconsolidated material, then there is a section about 50 feet long where the rock is supported by a continuous wood ceiling, then there is no continuous support (I assume there are roof bolts). The operator intends to backfill the 50-foot section where there is a continuous ceiling. The entrance section will be collapsed and mounded to keep water from piping into the portal.

We next discussed reclamation of the pad and waste material. Currently, there is a relatively flat pad with steep slopes extending into adjacent drainages (Photos 2 and 3). There are two levels of waste, the higher one being toward the east. We do not know what is under the waste and whether there might be layers of rock that would prevent the operator from grading the area as planned (see discussion below).

There are some small piles of soil in various places around the site, but it does not appear there is enough salvaged soil to cover the entire site as much as six inches deep. No volume calculations are available. One of the soil stockpiles is shown in Photo 2. To the west of the mine site, there was an area with some alluvial soil material that could be used as borrow (center of photo 4). The soil in the potential borrow area appeared to have few rocks, but there were some rocks in the other stockpiles.

The access road leading to the main mine site is classified as a Class B road by San Juan County, apparently part of road #112. The road dead ends at the mine, but about 200 yards before reaching the mine, there is another road, classified by the county as an OHV road, leading north (Photo 5). Photo 6 shows the portion of the main access road between the OHV road and the mine. Just to the east of the OHV road, between the road and the mine, there is a culvert under the access road where it crosses a drainage.

The roads leading to the ventilation shafts and the water treatment ponds are included on the county's system of OHV roads even though they were built by the mine for the mine sometime after 1978. We were able to drive to all of these sites, but the roads have clearly not been maintained in several years.

There are three ventilation shafts, and one of these has a headframe and hoist house (Photos 7 and 8). At the ventilation shafts, the top of the casing was placed in such a way that the casing extends about one or two feet above the ground surface. There is a large metal plate on the surface attached to and surrounding the casing (Photo 7). The purpose of the metal plate was to have a more secure base to which the casing could be attached.

Conclusions and Recommendations:

Mr. McDougall and I agreed the portal reclamation plan should be adequate. The contractor should attempt to fill the 50-foot section as completely as possible.

Mr. Butt intends to reduce the outslopes to no steeper than 3h:1v without expanding the waste slope into the drainages. If bedrock is encountered during grading, the plan will need to be modified. A berm will be placed around the edge of the pad, and the slopes will be terraced and left as rough as reasonably possible. The pad will be sloped away from the drainage back toward the hill on the north. A channel will be placed on the northwest side of the pad and possibly one on the northeast side to take water off the pad into small drainages. With the top of the pad sloped back and channels placed near where the pad intersects the hill, the constructed drainages should be short, not too steep, and not as prone to erosion compared to having the water come off the face of the waste slopes.

We discussed how to best use the limited soils. As a general rule, soils with fewer rocks should be placed on the top of the pad, and soils with more rocks would be placed on the slopes. Since there will probably be a soil deficit, the top of the pad would receive soil preferentially over the slopes. Once the top of the pad has about six inches of soil, remaining soil will be placed on the slopes. There are two reasons for preferring the pad. Foremost, because most of the soil came from flatter areas, most of it does not have a lot of coarse fragments. If placed on the slopes, it would probably be more prone to

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erosion than exposed waste material. Second, livestock and wildlife use is more likely in flatter areas, and using topsoil on the flat areas will probably allow greater forage production in the area where it is more likely to be used.

Although no one from the county attended this meeting, we decided on certain steps that would be taken to reclaim the roads. These steps will make the roads difficult to travel, but it would not be too hard or expensive for them to be reopened if the county chooses to do so.

The main access road to the mine will be reclaimed from the mine back to the OHV road. We could not see a purpose in keeping the road all the way to the mine since it dead ends there, and reclaiming the road would discourage people from getting to the mine and possibly damaging reestablished vegetation. Reclamation will include removing the culvert, ripping and seeding the road, and installing water bars as needed.

The roads to the vent holes and the water treatment ponds will not be fully backfilled, but they will be ripped or otherwise roughened and any culverts will be removed. In some places, these roads go over bedrock, so these areas will not be scarified. Large berms will be placed near the beginning of these roads to discourage people from traveling on them, and water bars will be put in as necessary.

The mine plan says the vent holes will be sealed by welding a steel plate to the casing and covering this with fill/soil. During this inspection, the operator proposed to cap the vent holes with reinforced concrete. The plates around the casings would be left in place to provide stability, and the concrete would come over the sides of the casings down to the plates. The concrete would then be covered with soil and the area revegetated. Mr. McDougall and I agreed this would be a much better way to seal these shafts than the approved method, and I felt it should be adequate.

At all of the vent shafts, the operator should try to redisturb as little area as possible. Native vegetation has become well established at these sites.

Mr. Craft showed us copies of analyses of sediment from the treatment ponds and of material from the waste pile. The sediments have lower concentrations of radium 226 than material from the ore pad. My understanding is that because the concentrations in the sediment are lower than in native material, it is not necessary to take any special precautions to dispose of this material. The operator intends to simply backfill the ponds with special emphasis on covering the clay liner which may have elevated salt levels and where radium is likely to be concentrated.

During the inspection, we talked about the seed mixture the Division recently recommended to the operator, and we made two changes. The operator sent the Division a copy of the new seed mix on June 4, 2003, so there is now a written record of the changes.

jb

cc: Fred Craft, US Energy

Ted McDougall, Monticello BLM

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ATTACHMENT

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Photographs

M/037/040, Velvet Mine, U.S. Energy



Photo 1. The portal is in the left center portion of this picture.



Photo 3. The outslope of the waste pile.



Photo 2. The outslope of the waste pile and, just to the left of center, a soil stockpile.



Photo 4. To the right of the waste pile outslope is an area with soil that could be used as borrow.



Photo 5. The mine access road looking away from the mine. On the right side is the OHV road leading north.

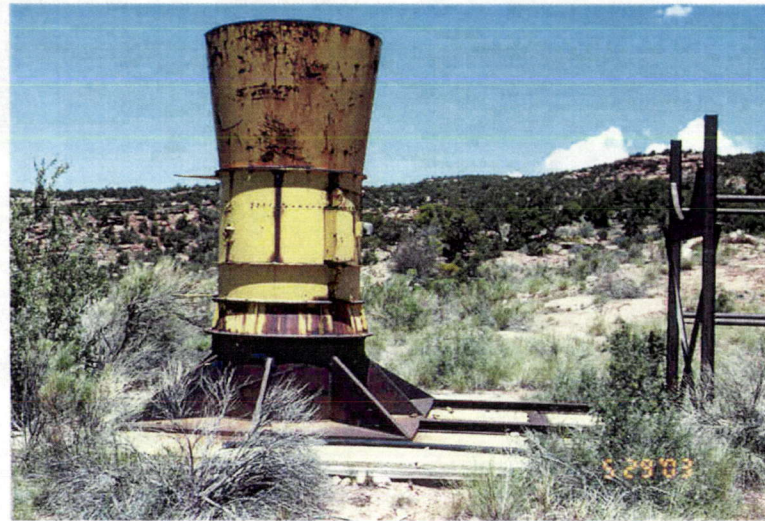


Photo 7. One of the vent shafts. This photo clearly shows the plate attached to the casing and to the fan.



Photo 6. The mine access road looking from the place shown in Photo 5 back to the mine.



Photo 8. A vent shaft with a headframe and hoist house.